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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,468	09/27/2000	Kazutomo Hasegawa	FUSA 17.792	7120

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EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/671,468

Applicant(s)

HASEGAWA ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-18, 21, 22 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 16-18, 21, 22, 25, 26 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 27-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/13/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Response, filed 27 November 2006, with respect to the rejection of claims 13, 16-18, 21, 22, 25, and 26 have been fully considered and are persuasive. The rejection of these claims has been withdrawn.
2. However, it appears that none of Applicant's arguments filed 27 November 2006 were directed to claims 27-34 since all of Applicant's arguments concerned claim language which was not present in claims 27-34. As such, Examiner maintains that the rejection of claims 27-34 is proper.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Qureshi et al (USPN 4,756,007), of record.
5. Regarding claims 27 and 31, Applicant admits as prior art a method of and apparatus for digital subscriber line transmission which receives effects of crosstalk from an ISDN ping-pong transmission line (Figs. 32, 33A and 33B and page 6, line 10-page 7, line 4 where the xDSL line receives effects of crosstalk from the ISDN line), comprising, the method comprising the steps of and the apparatus comprising means for: transmitting information to a device on a subscriber side, thereby notifying the device on the subscriber side of the FEXT interval which receives

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effects of crosstalk from the ISDN ping-pong transmission line (Fig. 37 and p. 12, lines 9-16 where the office side transmits information, i.e. timing-information, to the subscriber side, which the subscriber side utilizes to determine FEXT and NEXT intervals).

Applicant does not expressly disclose as prior art varying a phase between adjacent symbols during a transmit interval of the ISDN ping-pong transmission as a FEXT interval; and transmitting said symbols to a device on a subscriber side, thereby notifying the device on the subscriber side of the FEXT interval which receives effects of crosstalk from the ISDN ping-pong transmission line. However, Applicant does disclose as prior art transmitting information to the subscriber side to signal to the subscriber side the FEXT and NEXT intervals (Fig. 37 and p. 12, lines 9-16). Applicant also suggests as prior art transmitting during the FEXT interval since this is the period of time in which the effects of crosstalk will be lowest (p. 7, lines 20-22). Applicant does not admit as prior art how this timing information is communicated between the office side and the subscriber side.

Qureshi discloses, in a modem communication system, varying a phase between adjacent symbols and transmitting these symbols to a device, thereby notifying the device of a timing interval (col. 4, lines 23-44 where the phase transition that beings the second segment "is used to achieve synchronization in the receiver so that the beginning of each subsequent portion of the training sequence can be identified"). It is implicit that Qureshi does this in order to establish synchronization in the receiver prior to data communications. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the time information transmission of Applicant's admitted prior art by using Qureshi's phase change by varying a phase between adjacent symbols during a transmit interval of the ISDN ping-pong transmission

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as a FEXT interval; and transmitting said symbols to a device on a subscriber side, thereby notifying the device on the subscriber side of the FEXT interval which receives effects of crosstalk from the ISDN ping-pong transmission line. It would have been obvious to do this in order to ensure that the transmission of the timing-information, i.e. the phase of the ISDN 400-Hz signal, arrives at the transmitter prior to data communication.

6. Regarding claims 28 and 32, Applicant's Admitted Prior Art in view of Qureshi does not expressly disclose that the phase between adjacent symbols is varied at two positions within the FEXT interval; however, Applicant's Admitted Prior Art in view of Qureshi teaches that the phase between adjacent symbols is varied within the FEXT interval (Qureshi: col. 4, lines 23-44). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's Admitted Prior Art in view of Qureshi teaches that the phase between adjacent symbols is varied within the FEXT interval, it would have been obvious to one of ordinary skill in the art at the time of the invention to vary the symbols any number of times, including two times, absent a showing of criticality by Applicant.

7. Regarding claims 29 and 33, Applicant's Admitted Prior Art in view of Qureshi discloses that said steps of varying phase and of transmitting said symbols are executed at a time of

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training carried out prior to a data communication (Applicant: p. 12, lines 6-12 where "beforehand" suggests that the transmission of the timing information occurs before data transmission and Qureshi: col. 4, lines 10-44 where the varying phase and transmission of the symbols occurs during a training sequence).

8. Regarding claims 30 and 34, Applicant's Admitted Prior Art in view of Qureshi discloses that the step of varying the phase includes the steps of: quadrature-modulating a carrier wave of a predetermined frequency by said adjacent symbols (Applicant: p. 3 lines 9-23) and varying the phase between said adjacent symbols by 90° or 180° in a QAM constellation diagram (Applicant: p. 3 lines 9-23 where the different signal points in QAM vary according to amplitude and phase such that phase between adjacent symbols will be varied and Qureshi: col. 4, lines 34-37 where the phase change for synchronization is 180°).

Allowable Subject Matter

9. In view of the Response filed 27 November 2006, claims 13, 16-18, 21, 22, 25, 26, and 35-37 are allowed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ungerbock (USPN 5,353,280) see abstract which discloses transmitting timing information in the training sequence. Gluska et al. (USPN 5,541,967) see abstract which discloses synchronizing modems using a training sequence. Olafsson (USPN 6,212,247) see abstract which discloses synchronizing modems using a training sequence.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

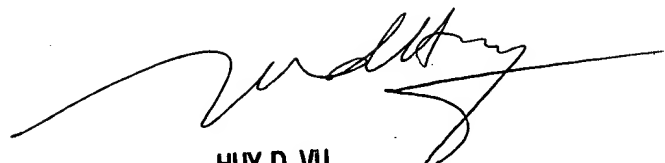
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Daniel J. Ryman
Examiner
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DSR

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal stroke extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600